



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/648,644	08/25/2000	Nischal Abrol	PA000347	5628

23696 7590 08/20/2004

Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
San Diego, CA 92121-1714

EXAMINER

JUNG, MIN

ART UNIT	PAPER NUMBER
----------	--------------

2663

DATE MAILED: 08/20/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/648,644

Applicant(s)

ABROL ET AL.

Examiner

Min Jung

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 4-6, 8-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kanerva et al., US Pat. 5,930,233 (Kanerva).

Kanerva discloses a data transmission system with sliding window data flow control. Specifically, regarding claims 1 and 5, Kanerva teaches a method and system for detecting delayed Radio Link Protocol frames, and preventing the transmission of unnecessary Negative Acknowledgement messages and data frame retransmission (see Abstract and col. 6, lines 27-31), comprising the steps of : buffering an unsequentially received Radio Link Protocol frame (col. 8, lines 22-27, Kanerva teaches that the unsequentially received frame is added to the list of unacknowledged frames); and withholding the transmission of a Negative Acknowledgement message for a delayed Radio Link Protocol frame until the delayed Radio Link Protocol frame has been missing longer than a predefined time period (col. 6, lines 32-37, and col. 8, lines 30-34).

Regarding claims 2 and 6, Kanerva further teaches timer/counter in association with the buffered Radio Link Protocol frame for determining the

Art Unit: 2663

necessity of transmitting a Negative Acknowledgement message for an unreceived Radio Link Protocol frame (the delay D, or the duration of D).

Regarding claims 4 and 8, the step of delaying updating is inherent in Kanerva. Kanerva waits for the delayed frame to arrive. Kanerva also teaches the sequence number and the missing sequence number in the received frames (see col. 5, lines 53-57, and col. 6, lines 8-21). Therefore, the sequence number update after the delayed frame arrives would be an inherent feature in Kanerva.

Regarding claims 9-11, Kanerva teaches the implementation of the disclosed scheme in GSM mobile communication system as shown in Fig. 1, and as described in col. 4, line 38 – col. 5, line 35. It is inherent that the described function can be implemented in any of the network devices including base station, or mobile terminals including a mobile telephone, or a mobile data terminal.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanerva.

Art Unit: 2663

Kanerva teaches the present invention except for the feature of buffering the Negative Acknowledgement. Kanerva is silent on whether the Negative Acknowledgement is buffered at all. However, it would have been obvious for one of ordinary skill in the art at the time of the invention either to generate the Negative Acknowledgement after the delay D expires, or to generate it and buffer it until the expiration of D to be transmitted subsequent to the expiration of D.

Response to Arguments

5. Applicant's arguments filed February 11, 2004 have been fully considered but they are not persuasive.

Applicants contend that "nowhere does Kanerva teach or recite the buffering of out-of-sequence frame and the withholding of a NAK message as recited in applicants' claims". On the contrary, Kanerva teaches that when a frame is received out of order, that frame is added to the list of unacknowledged frames to wait for the missing frames. See col. 8, lines 18-27. More specifically, Kanerva further teaches that out-of-sequence frames are stored (buffered) in the reception window where they wait for the missing frames See col. 6, lines 8-12. Kanerva teaches withholding of a NAK message (retransmission request) by a delay D so that the retransmission request is not sent immediately after a missing frame is detected. See col. 6, lines 27-37.

Applicants further contend that Kanerva does not teach or suggest making modification to include the element of withholding the NAK message upon receiving an out-of-sequence frame. Applicant further contends that modifying

Art Unit: 2663

Kanerva to result in the Applicants' claims would result in making Kanerva nonoperational. Examiner disagrees. Although Kanerva does not specifically teach the buffering of a NAK message for an unreceived frame, Kanerva teaches delaying the transmission of a retransmission request (NAK) for an unreceived frame. Kanerva does not specify (he doesn't need to specify) whether the retransmission request (NAK) is generated and held, or it is generated after a certain delay D when it needs to be transmitted. However, Kanerva undoubtedly teaches that the retransmission request (NAK) is not sent right away when the missing frame is detected, but is sent after a delay when enough time has been given for the right sequence to be filled. With the teaching of Kanerva, it would have been obvious for one of ordinary skill in the art to either generate the retransmission request as soon as a missing frame is detected, and hold it until it is to be transmitted, or generate the retransmission request when it is needed to be transmitted. And, since the manner of generating and/or holding of the retransmission request does not change the main concept of Kanerva's teaching, Kanerva's system would be operational in either mode of implementation.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory

Art Unit: 2663

action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Min Jung whose telephone number is 703-305-4363. The examiner can normally be reached on Monday-Friday, 7AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 703-308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2663

MJ
August 19, 2004


Min Jung
Primary Examiner